Department for Health | UNIVERSITY OF BATH

Standard Operating Procedure

Equipment / Procedure:	*Sysmex KX-21N*
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Sysmex KX–21N

This Standard Operating Procedure gives a brief overview of how to run blood samples on the Sysmex KX-21N. For more detailed technical information and troubleshooting please refer to the user manual which can be obtained from the lab technician.

IMPORTANT: Users must familiarise themselves with procedures for handling blood samples and dealing with blood spillages (see relevant SOPS). Gloves must be worn at all times when handling blood samples.

Please note that there are two modes of analysis available on the Sysmex: Whole Blood Mode and Pre-Dilute Mode. The default setting is "Whole Blood Mode" and is described in this SOP. If you require using the other mode, please refer to the user manual.

Procedure:

1. *Check the reagent levels and printer paper, and then turn on via the power switch on the right hand side panel. The analyser will go through its internal checks, and then display "Ready".*

2. *Prior to running your samples, you must execute a quality control. To do this:*

   - *Take the QC sample out of the fridge beside the Woodway Treadmill. Use the QC sample which is clearly marked "In Use".*

   - *Press the "Select" button, use the arrow buttons to highlight "QC Analysis" and then press "Enter" to select this mode.*

   - *A menu displaying date and serial number of the QC sample for analysis will appear. Check the date and serial number on the QC sample you have taken out of the fridge and make sure you select this sample from the menu.*

   - *Press the [1] key to select "1: QC analysis" and then wait until "ready" is displayed. While you are waiting for this, give the QC sample a thorough mix by inverting several times.*

   - *Present the QC sample to the sipper making sure the sipper is well submerged in the sample and press the start switch (green switch behind the sipper).*

- *When the buzzer sounds twice (beep, beep) remove the sample and an automatic analysis will take place. The sample sipper is automatically rinsed and dried so you do not need to clean it.*

- *Analysis result is given under the data column on the results screen and a comparison result with the QC limits under the judgement column.*

- *If the QC is judged to be outside acceptable limits a "-" will appear underneath the judgement column, next to the relevant marker. In these cases press [2] to reject the QC and repeat the process again.*

- *If the data is acceptable (please note – the haematocrit data will always flag up with a "-" – if this is the only negative judgement it is fine to accept QC – see lab technician for details) then press [1] to accept the QC.*

3. *The Sysmex is now ready to sample. To run your samples:*

    - *Ensure your samples are well mixed by inverting several times.*

    - *Present your sample to the sampling sipper and press the start button (green button behind the sipper).*

    - *When the buzzer sounds twice (beep, beep) remove the sample and an automatic analysis will take place. A print out of the results will be generated. Tear this off and note down key information on the top of it (date, participant code, time point etc.).*

    - *Samples should be run in triplicate.*

4. *When you are finished with your sampling, you must complete the daily shut down procedure. To do this:*

    - *Press the [Shutdown] key in the ready status and the shutdown screen will appear.*

    - *You must then run the CELLCLEAN detergent (DO NOT use other detergents) through the system. Present the CELLCLEAN to the sampling sipper and press the start button to aspirate. "Aspirating" will be displayed on the screen until a "beep, beep" sound is heard.*

    - *The rest of the shutdown is completed automatically and takes approximately 5 minutes.*

- *When the shutdown is completed message is displayed, turn off the mains power switch on the right side of the unit.*

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